RHIC Operations Procedures Manual

1.4 PROCEDURES

Text Pages 1 through 3
Attachment(s) 1, 2

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Revision No. 5 Approved:

Satoshi Ozaki 6/7/99

RHIC Project Director Date

Preparer(s): S. Musolino

RHIC-OPM 1.4
Date Issued: June 7, 1999

1.4 Procedures

1.0 RHIC Operating Procedures

RHIC Operating Procedures are written by cognizant Systems Specialists, operating personnel, and/or systems managers. Procedures supplied by the manufacturer can be used in section 5.0 on Attachment 2. Procedures are divided into two categories, A and B. Authorization for the classification of procedures rests with the Project Director and the Assistant to the Project Director for ES&H.

2.0 Category A Procedure

Procedures are classified as Category A where deviation from literal compliance could trigger consequences breaking the Safety Envelope imposed on the accelerator, or could cause death, severe injury, severe occupational illness, system loss, physical damage greater than $10,000 or program loss greater than one week.

Literal compliance with the intent, as well as with the means to meet that intent, is required. Deviations from literal compliances with the means to meet the intent of Category A Procedures require Project Director Authorization and, where appropriate, concurrence of the cognizant Safety Committee.

Problems or inconsistencies with implementation of Category A procedures shall be reported to the appropriate supervisor. The supervisor shall seek prompt resolution with the cognizant Systems Specialist and/or System Manager and shall appropriately change the procedure prior to continuing.

3.0 Category B Procedures

All procedures not classified as Category A are classified as Category B Procedures. Category B procedures are to be used when there is a possibility of causing minor injury, minor occupational illness, minor equipment damage or minor program impact.

Compliance with the intent of the procedure is required. Deviations from the means to meet the intent of a Category B Procedure require the exercise of discretionary judgment in the interest of achieving a specified program or research objective. Such deviation from the means to meet this interest requires supervisor authorization. Precautions and Prerequisites shall be complied with literally.

Problems and inconsistencies with implementation of Category B procedures are to be reported to the appropriate supervisor. The supervisor should seek prompt resolution with the cognizant Systems Specialist and should appropriately change the procedure prior to continuing.

4.0 Review and Approval Process

Procedure reviews shall be performed for the following conditions:

A. A new procedure or extensive change to an existing procedure.
B. A change of intent to the procedure.
C. Revisions that change levels, limits or calculations used in a procedure.
D. The procedure is three years old.
E. Changes to Subject Areas in SBMS, as appropriate.

The review process shall be documented on the Procedure Review Track Sheet shown in Attachment 1.

If the procedure writer determines that a technical review is required, he/she should request from the Project Director or Associate Director the assignment of an individual(s) to perform a technical review.

The technical reviewer is responsible for ensuring field validation, calculations and technical requirements of the procedure.

The technical review shall be documented.

If the procedure is not technically correct, the reviewer shall record the comments and forward the comments to the preparer.

The preparer shall resolve the comments, revise the procedure accordingly and return the revision to the technical reviewer. The Associate Director shall decide any conflict between technical reviewer and procedure author.

When the procedure is determined to be technically correct, the preparer shall forward the procedure to the Project Director or Associate Director and the appropriate Safety Committee for approval.

Any procedures which are not normally reviewed by a Safety Committee shall be reviewed by the S&EP Representative or his/her designee, in addition to the line review.

Each person or committee that reviews and/or comments on the procedure will sign off the traveler associated with the document and attach their comments to or on the draft copy.

No procedure shall be active until all comments have been addressed.

5.0 Procedure Format

All operating procedures, except Chapters 1 and 2, of this Manual shall have the format given in Attachment 2.

6.0 Additional Guidance

SBMS Subject Area, Internal Controlled Documents. Note that the Subject Area provides additional information beyond Attachment 2.

7.0 Attachments

1. RHIC OPM Procedure Review Track Sheet

2. Example Procedure Format and Content

Attachment 1
RHIC OPM Procedure Review Track Sheet

RHIC-OPM # _____
REVISION # _____
RHIC-TP # _____

RHIC Project Procedure Review Track Sheet

Category **G** A **G** B Exp. Date _____ **G** 3 Years

G Temporary Procedure **G** New Procedure **G** Revised Procedure

Title: _____

Preparer: _____ Date: _____

Assistant to Project Director for ES&H: _____ Date: _____

Committee Chairman Review		**DQAR/S&HSD/RSD Reviewer Signoff**
G	Radiation Safety	**G** DQAR Print Name:
G	Experiment Safety	Signature: Date:
G	Accelerator Systems Safety	**G** S&HSD/RSD Print Name:
G	ALARA	Signature: Date:
G	Cryogenic Safety	Training Requirements:
Committee Reviewer Signoff		
Committee Chairman/Designate		
Print Name:		
Signature: Date:		Training Coordinator: J. Licari Signature: Date:
Technical Reviewer Signoff		**Procedure Cover Page to be Signed by**
Print Name:		**G** RHIC Project Director/Designate
Signature: Date:		**G** Associate Director _____
Comments		

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Attachment 2

Example Procedure Format and Content

Procedure No., Procedure Title, Section Numbering, Section Content and Heading and Footers should follow this example

RHIC Operations Procedures Manual

8.15.4 Procedure for ...

Text Pages through
Attachment(s)

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Revision No. 0 Approved:

_____ _____

RHIC Project Director or Associate Director — Date

Preparer(s):

RHIC-OPM Number
Category (A or B)

(Attachment 2 cont'd)

8.15.4 (Title of Procedure)

1.0 Purpose and Scope

Concisely state your goal in writing the procedure.

Concisely state the scope of the procedure: areas and activities that are addressed and, if necessary for clarity, areas and activities that are not addressed.

2.0 Responsibilities

Indicate the persons responsible to perform the procedure and indicate if they are to complete any documentation.

3.0 Prerequisites

State the requirements to be met before performing the main actions of the procedure. Address the following areas, as applicable:

A. Special training and qualifications

B. Required reading.

C. Approvals and notifications.

D. Other documents required to perform the main actions (drawings, vendor manuals, other procedures).

E. Special tools, equipment, parts, supplies.

- Do not specify ordinary craft tools.

(Attachment 2 cont'd)

- For measurement and test equipment, specify the manufacturer and model number, OR specify the range and accuracy required.

- Identify calibrated equipment needed.

4.0 Precautions

The directives in this section should apply to potential hazards that exist during performance of the entire procedure, or at more than one point in the procedure. If no such hazards exist, write "None."

Alert the user to the measures to be taken to protect against injury to personnel, equipment damage, product damage, and off-normal conditions. Include limits of operation as identified in vendor manuals or design documents, if applicable.

Indicate the possible consequences of ignoring a precaution.

Write precautions as statements rather than action steps.

Example:

Wear safety glasses when performing this procedure.

should be:

Eye injury is possible if safety glasses are not worn.

5.0 Procedure

This section contains the sequential activities to be performed to accomplish the principal tasks and sub-tasks of the procedure. The level of detail should be based on the skill, background, and training of the intended user.

(Attachment 2 cont'd)

Warnings and Cautions

Warnings alert users to potential hazards to personnel. Cautions alert users to potential hazards to products or equipment. Notes call attention to important supplemental information.

Warnings and cautions attract attention to information that is essential to safe performance; they usually consist of the conditions, design limitations, practices, and procedures to be complied with to avoid loss of life, personal injury, health hazards, or damage to equipment. An industry study of significant events attributed one-fourth of all human performance events to a failure to provide proper warnings and cautions.

1. Review potential hazards with facility technical specialists to determine warnings or cautions that need to be included.

2. Determine those parts of the procedure where the addition of information is necessary.

3. Review each action step and list the potential hazards in warning or caution format.

4. Position warnings and cautions so they are complete on one page and appear immediately before and on the same page as the action step(s) to which they apply.

5. Place warnings ahead of cautions whenever more than one type is used at the same point in a procedure.

6. Do not include action steps in warnings and cautions.

(Attachment 2 cont'd)

7. Write warnings and cautions as short, concise statements. Write warnings and cautions as statements rather than as commands to distinguish them from action steps (for example, "Touching this wire will electrocute you!"). Do not embed an action step in a warning format (for example, do not rewrite the instruction "Shut the valve," as "The valve should be shut").

8. Ensure that cautions and warnings provide (a) a description of the hazardous condition, (b) the consequences of failing to heed the warning or caution, and (c) critical time considerations.

9. Present the text of warnings and cautions using appropriate techniques to ensure visual identification. (Do not use all capital letters to distinguish warnings and cautions because they are hard for users to read.)

10. Include only one topic in each warning or caution.

11. Number each warning or caution when more than one exists in the same location in a section or subsection (see example below).

12. If the danger is present during the entire procedures, place the warning or caution in the precautions and limitations section.

13. Repeat the information in precautions as separate cautions or warnings within the body of the procedure as it applies to individual action steps.

(Attachment 2 cont'd)

14. Avoid overusing warnings and cautions.

Example - Numbered Cautions

CAUTION 1

Operating the generator system at speeds less than 700 rpm for longer than 10 minutes with the exciter regulator in operation may cause damage to the exciter regulator field.

CAUTION 2

In the event of a power failure, emergency equipment will start and overload the diesel if the diesel is isolated on the emergency bus during testing.

Notes

Notes call attention to important supplemental information. The information can be a reminder of preparatory information needed to perform the activities of a procedure or action step.

1. Use notes to present information that assists the user in making decisions or improving task performance.

2. Position notes so they are complete on one page and appear immediately before and on the same page as the action step(s) to which they apply.

3. Place warnings and cautions ahead of notes whenever more than one type is used at the same point in a procedure.

(Attachment 2 cont'd)

4. Do not include action steps in notes. Embedded actions should be removed from the note and written as action steps.

5. Number the notes if more than one note is entered at the same location in a section or subsection.

   Example - Numbered Notes

   NOTE 1 *The following action step closes generator breaker G-1 and starts diesel DL-I.*

   NOTE 2 *The following action step requires a time measurement starting at the initiation signal.*

6. Write notes as short, concise statements. Write notes as statements rather than as commands to distinguish them from action steps (for example, "The following action step starts a timed duration.")

7. Use appropriate emphasis techniques (for example, *italics*) to distinguish notes from cautions or warnings.

8. Include only one topic in each note.

9. Avoid overusing notes.

Use action statements for procedure steps with the verb as the first word, for example:

5.7 Observe 10 volts ± 20% on the meter face.

5.8 Record steps 5.5, 5.6 and 5.7 on Form 90-3.

(Attachment 2 cont'd)

Use the following number format and indentation for related and subordinate steps:

5.1 ...
5.1.1 ...
A ...

6.0 Documentation

List the forms, documents or specific log books to be completed and the person responsible to complete them.

7.0 References

List those source documents used in preparation of the procedure and documents referenced in the text.

8.0 Attachments

List those items attached to the procedure which aid in the completion of the procedure and require information or data input (e.g., forms). Procedure requirements shall not be included in attachments. Attachments shall be sequentially numbered or lettered in the order in which the attachments appear in the procedure. If there are no attachments, indicate "None" below the attachment heading.